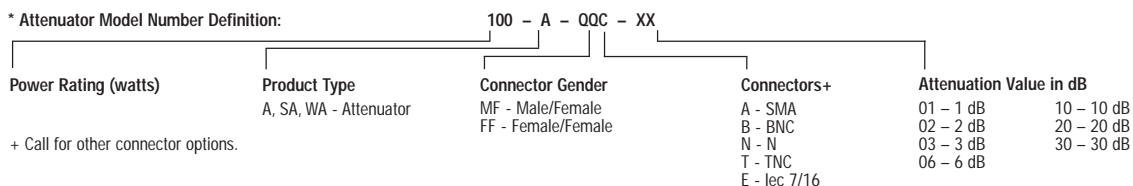


* Attenuator Model Number Definition:



0.5-A-MFA SERIES 0.5 WATT BI-DIRECTIONAL

Peak Power 500 mW
Connectors SMA (Male and Female)
Frequency Range and VSWR DC to 2 GHz at 1.10:1 max.,
 2 GHz to 4 GHz at 1.15:1 max.,
 4 GHz to 8 GHz at 1.20:1 max.,
 8 GHz to 12.4 GHz at 1.25:1 max.,
 12.4 GHz to 18 GHz at 1.35:1
Operating Temp. Range -55°C to +125°C
Coolant Dry (Convection cooled)
Finish Stainless steel
Nominal Size (with N-type connectors): 0.860" L x 0.30" Dia.,
 (21.9 mm x 7.7 mm) except 0.985" L
 (25.1 mm) for 30 dB model
Weight 0.2 oz. (5.2 g)



0.5-A-MFA SERIES 0.5 WATT BI-DIRECTIONAL

dB Atten.	Accuracy ± dB DC-18 GHz	"XX" Value
1	±0.3 dB	01
2	±0.3 dB	02
3	±0.3 dB	03
6	±0.3 dB	06
10	±0.5 dB	10
20	±0.6 dB	20
30	±1.0 dB	30

ACCURACY 2-A through 500-WA SERIES

dB Atten.	Accuracy ± dB DC-1 GHz	Accuracy ± dB 1-4 GHz	"XX" Value
1	0.3	0.5	01
2	0.3	0.5	02
3	0.3	0.5	03
6	0.4	0.6	06
10	0.4	0.8	10
20	0.5	1.0	20
30	0.8	1.3	30

All Attenuators 150W or lower are Bi-Directional

Models	2-A-MFA Series (2 WATT)	2-A SERIES (2 WATT)*	3-A-MFB-K1 AND 3-A MFB-XX	5-A (5 WATT)*	5-A-FFI-XX (5 WATT with Interseries Connectors)	10-A-FFI-XX (10 WATT with Interseries Connectors)	10-A (10 WATT)*	25-A (25 WATT)*
Connectors	SMA (Male or Female)	N, BNC, TNC (Male or Female)	BNC (Male or Female)	N, BNC, TNC (Male or Female)	Interchangeable. Use optional 4240 Interseries connector adapter kits, or equivalent.		N, BNC, TNC (Male or Female)	
Frequency Range and VSWR	DC to 1 GHz at 1.10:1 max., 1 GHz to 4 GHz at 1.25:1 max.							
Ambient Temp.	-40°C to +40°C							
Finish	Nickel Plated	Silver or Tri-alloy plated, except Nickel plate for BNC			Black anodized. Silver or Tri-alloy plated connectors			
Nominal Size	1.32" L x 0.42" Dia., (33.6 mm x 10.7 mm)	(with N-type connectors): 2.2" L x 0.8" Dia., (55.9 mm x 20.4 mm)	1.4" L x .50 Dia.	(with N-type connectors): 2.2" L x 0.8" Dia., (55.9 mm x 20.4 mm)	1.600" L x 0.79" Dia.	1.600" L x 2.3" Dia.	(with N-type connectors): 2.2" L x 2.3" Dia., (66.1 mm x 58.5 mm)	(with N-type connectors): 5.3" L x 2.3" Dia., (134.7 mm x 58.5 mm)
Weight	0.4 oz. (11.4 g)	3.1 oz. (88 g)	—	3.1 oz. (88 g)	—	6.2 oz. (177 g)	4 oz. (176.7 g)	9 oz. (373.4 g)



Models	50-A (50 WATT)	75-A (75 WATT)	100-A* (100 WATT)	100-SA (100 WATT)	150-A, WA*** (150 WATT)	300-A, WA*** (300 WATT)	500-WA (500 WATT)**
Connectors	N, BNC, TNC, IEC 7/16						N, TNC, or IEC 7/16
Frequency Range and VSWR	DC to 1 GHz at 1.10:1 max., 1 GHz to 2.4 GHz at 1.25:1 max.						
Ambient Temperature Range	-40°C to +40°C						
Operating Position	Any	Vertical	Vertical	Fin Vertical	Vertical	Vertical	Any, except mounting surface up
Finish	Black anodized. Silver or Tri-alloy plated connectors						
Nominal Size (with N-type Connectors)	5.3" L x 2.3" Dia., (134.7 mm x 58.5 mm)	7.3" L x 2.3" Dia., (185.5 mm x 58.5 mm)	6.4" H x 2.6" W x 6.8" D, (162.6 mm x 66 mm x 172.8 mm)	7.30" H x 2.75" W x 2.75" D, (192.8 mm x 69.9 mm x 69.9 mm)	11.9" H x 2.6" W x 6.8" D, (302 mm x 66 mm x 173 mm)	10.9" H x 5.3" W x 6.8" D, (277 mm x 137 mm x 173 mm)	11.31" L x 5.4" W x 4.3" H (285.3 mm x 137.2 mm x 109.3 mm)
Weight	1.0 lb. (0.57 kg)	1.6 lbs. (0.73 kg)	4.3 lbs. (1.95 kg)	2.82 lbs. (1.29 kg)	6.5 lbs. (2.95 kg)	12 lbs. (5.45 kg)	7.9 lbs. (3.6 kg)

* Also available in -40dB

** 4 Mounting Holes, Centers and Size: 1.812" x 7.687", typical 10-32 Thread x 0.5" D

*** WA SERIES Compact Size



600-A-QFFN (600 WATT UNI-DIRECTIONAL)

- Connectors** QC N-type Female
- Frequency Range and VSWR** DC to 1 GHz at 1.10:1 max., 1 GHz to 2.4 GHz at 1.25:1 max.
- Operating Position** Vertical
- Coolant** Dry (Convection cooled)
- Finish** Black anodized. Silver or Tri-alloy plated connectors
- Nominal Size** 13.15" L x 8.875" H x 9.65" W
- Weight** 21.5 lbs. (kg)
- Accessories** Quick disconnect options (page 37)



1000-WA SERIES (1000 WATT)

- Connectors** N, TNC, or IEC 7/16
- Coolant** Dry (Convection cooled)
- Operating Position** Any, except mounting surface up
- Frequency Range and VSWR** DC to 1 GHz at 1.10:1 max., 1 GHz to 2.4 GHz at 1.25:1 max.
- Attenuator Operation** Unidirectional. Standard attenuation values 3, 6, 10, 20 and 30 dB; others available on request
- Finish** Black anodized. Silver or Tri-alloy plated connectors (with female N connector; excludes removable feet)
- Nominal Size** 18.65" L x 10.53" W x 4.9" H (587.6 mm x 229.4 mm x 137.2 mm)
- 4 Mounting Holes, Centers and Size** 1.885" x 14.40", typical 1/4-20 thread x 0.5"D
- Weight** Approximately 26.5 lbs. (12.1 kg)



ACCURACY 1000-WA

dB Atten.	Accuracy ± dB DC-1 GHz	Accuracy ± dB 1-2.4 GHz	"XX" Value
3	0.5	+1.0 dB/-0.5 dB	03
6	0.6	+1.2 dB/-0.5 dB	06
10	0.6	+1.5 dB/-0.5 dB	10
20	0.6	+1.5 dB/-0.5 dB	20
30	1.0	+1.5 dB/-0.5 dB	30



Models	8323 (100 WATT)	8322 (200 WATT)	8325 (500 WATT)	8327-300 (1kW)	8329-300 (2 kW)	8329-300 with BA-300-115 (4kW)	8329-300 with BA-300-230 (4kW)
Power Rating	100 W continuous	200 W continuous	500 W continuous	1000 W continuous	2000 W continuous	4000 W continuous with blower on, 1000 W with blower off	
Frequency Range and VSWR	Input 1.1 max. DC to 500 MHz						
Attenuation	30 dB						
Accuracy	±0.5 dB (Calibration Data supplied for 30, 100, 200, 300, 400, and 500 MHz which is accurate to ±0.2dB)						
Ambient Temperature Range	-40°C to +45°C						
Connectors	QC type (Female N normally supplied)						
Coolant	0.35 gal. (1.3 liters) refined mineral oil	0.7 gal. (2.65 liters) refined mineral oil	0.9 gal. (3.4 liters) refined mineral oil	2.9 gal. (11 liters) refined mineral oil	2.9 gal. (11 liters) silicone oil	2.9 gal. (11 liters) silicone oil with forced-air cooling	
Operating Position	Horizontal only						
Finish	Gray powder coat						
Nominal Size	10 11/32" L x 8 1/2" H x 5 15/16", (263 mm x 216 mm x 151 mm)	17 1/2" L x 8 1/2" H x 5 15/16", (445 mm x 216 mm x 151 mm)	17 1/2" L x 8 1/2" H x 5 15/16", (445 mm x 216 mm x 151 mm)	23 15/16" L x 17 3/16" H x 7 1/8", (596 mm x 437 mm x 181 mm)		23 15/32" L x 22 1/16" H x 7 1/8", 596 mm x 560 mm x 181 mm)	
Weight	11 lbs. (5 kg)	19 lbs. (9 kg)	25 lbs. (11 kg)	57 lbs. (26 kg)		70 1/2 lbs. (32 kg)	
Note	—			Overload thermoswitch P/N 8329-028 is optional		Overload thermoswitch P/N 8329-028 is optional. When ordered as a package, attenuator and blower are factory assembled at no additional charge.	



MINIATURE COAXIAL COUPLER

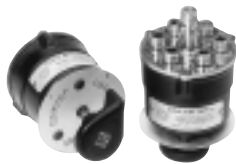
Models	50-AC-FFA-XX	100-CC-FFA-XX
Frequency Range	0.5 GHz to 1.0 GHz	800 to 3500 MHz
Coupling Factor	10, 20, 30 dB	20, 30 dB
Directivity	25 dB, minimum	18 dB, minimum
Frequency Sensitivity	±0.75 dB, maximum	±1.0 dB, maximum
VSWR	1.15:1, maximum (primary and secondary line)	1.20:1, maximum (primary and secondary line)
Reflected Power	5 W average, 3 kW peak	100 W average
Insertion Loss	0.2 dB, excluding coupled power, 0.8 dB true	25 dB (excluding coupled power)
Maximum Operating Temp.	+105°C (221°F)	+105°C (221°F)
Dimensions	3.6" L x 0.86" W x 0.42" H	5.2" L x 1.85" W x 0.812" H
Weight	1.3 oz (37 g)	8 oz.



COMBINER / DIVIDER

Models	1-AD-CCC-8	2-AD-FFN-X	30-AD-FFA-2	30-AD-FFN-2	100-AD-FFN-2**	350-AD-FFN-2*
Power Rating	1 watt	2 watts	30 watts into 1.15:1; 10 watts into 1.50:1; 1 watt into open *		100 watts cw *	350 watts into matched loads; 150 watts into mismatched loads *
Frequency	2-500 MHz	2.0 to 2.5 GHz	800 to 2.4 GHz		806 to 906 MHz	460 to 970 MHz
Insertion Loss	1.35 dB (above 9 dB split)	0.6 dB (above 3 dB split)	0.5 dB max (above 3 dB split)		3.25 dB max (above 3 dB split)	0.4 dB
Isolation	30 dB	20 dB min. (J2 to J3)	25 dB min. (J2 to J3)		20 dB min. (J2 to J3)	20 dB min.
VSWR	1:35:1 max.	1.17:1 max.	1.2:1 max.		1.2:1 max. (all ports)	Input: (J1) 1.3:1 max; Output: (J2, J3)
Matching	Phase balance of 0.5 degrees. Amplitude balance as low as 0.1 dB	1.5 degree phase dB amplitude (typically 0.3 dB)	2 degree phase (typically 0.5) 0.5 dB amplitude		1 degree phase (typically 0.2) (0.1 dB amplitude (typically 0.05 dB)	2 degree max
Housing	Aluminum	Aluminum	Aluminum		Aluminum, silver plated	Aluminum
Finish	Iridite	Tri-alloy	Yellow Iridite		Grey acrylic urethane	Tri-alloy per fed. Std. 26492
Nominal Size	5.10" L x 4.25" W x 1.20" H	2.75" L x 2.75" W x 1.062" H	4.25" L x 3.14" W x .5" H	2.20" L x 2.72" W x 1.04" H	1.115" H x 3.00" W x 3.00" D	3.27" L x 2.50" W x 0.80" H
Connectors	TNC	Female (N)	SMA (F)	N-Type (F)	Female (N)	Female (N)

* When mounted to a heat sink capable of maintaining the case temperature at or below 100 degrees C.
** Weatherproof



50-OHM COAXIAL SELECTOR SWITCHES — 72, 73, 74 SERIES

Frequency Range	DC to 10 GHz
Maximum RF Voltage	500 volts rms
Attenuation to Unused Channel	75 dB (cross talk)
Ambient Temp.	-60°C to +65°C (-76°F to +149°F)
Weight	Varies by model, approx. 2 1/2 lbs. (1.1 kg)



TYPICAL OPERATING VALUES

FREQUENCY	VSWR	INSERTION LOSS	MAX RF POWER RATING @ 65°C
100 MHz	Negligible	0.02 dB	850 W
1000 MHz	1.06 max.	0.09 dB	200 W
4000 MHz	1.30 max.	0.22 dB	75 W

Model	7422	7441	7431	74	718	7181	72-2	72-R
Positions	2	3	4	6	8	10	2	reversing
Coaxial Circuits	1	1	1	1	1	1	2	2